

IN THE CLAIMS:

Please amend the claims as follows:

1-7. (Canceled)

8. (Currently amended) A method for cleaning a process chamber located in a processing system for semiconductor and/or flat panel display manufacturing, comprising:

generating a fluorine cleaning gas from hydrogen fluoride, wherein said fluorine cleaning gas is generated on-site in an apparatus in fluid communication with the processing system but remote to the process chamber, said generating comprising:

converting said hydrogen fluoride to a gas mixture consisting essentially of hydrogen fluoride and said fluorine gas;

transferring the gas mixture to a cold trap;

converting said hydrogen fluoride in said gas mixture into a liquid hydrogen fluoride; and

removing said liquid hydrogen fluoride from the cold trap, said fluorine cleaning gas remaining in a gaseous form;

activating said fluorine cleaning gas to form fluorine radicals; and

cleaning the process chamber with said fluorine radicals.

9. (Previously presented) The method of claim 8, wherein said fluorine cleaning gas is pumped into an on-site storage unit prior to said activating said fluorine cleaning gas.

10. (Previously presented) The method of claim 8, wherein said fluorine cleaning gas is activated to form fluorine radicals inside the process chamber.

11. (Previously presented) The method of claim 8, wherein activating said fluorine cleaning gas is via a plasma source.
12. (Previously presented) The method of claim 11, wherein said plasma source is a microwave energy source.
- 13-14. (Canceled)
15. (Previously presented) The method of claim 8, wherein said converting said hydrogen fluoride is via electrolysis.
16. (Previously presented) The method of claim 8, wherein said fluorine cleaning gas is activated to form fluorine radicals outside the process chamber, said fluorine radicals subsequently delivered to the process chamber.
17. (Previously presented) The method of claim 8, wherein activating said fluorine cleaning gas is via a heat source.
18. (Previously presented) The method of claim 8, wherein activating said fluorine cleaning gas is via an electrical source.
19. (Previously presented) The method of claim 11, wherein said plasma source is a radiofrequency energy source.
20. (Previously presented) The method of claim 16, wherein activating said fluorine cleaning gas is via a plasma source.
21. (Previously presented) The method of claim 16, wherein activating said fluorine cleaning gas is via a heat source.

22. (Previously presented) The method of claim 16, wherein activating said fluorine cleaning gas is via an electrical source.
23. (Previously presented) The method of claim 20, wherein said plasma source is a microwave energy source.
24. (Previously presented) The method of claim 20, wherein said plasma source is a radiofrequency energy source.
25. (Currently amended) A method for cleaning a process chamber located in a processing system for flat panel display manufacturing, comprising:
generating a fluorine cleaning gas from hydrogen fluoride, wherein said fluorine cleaning gas is generated on-site in an apparatus in fluid communication with the processing system but remote to the process chamber, said generating comprising:
converting said hydrogen fluoride to a gas mixture consisting essentially of hydrogen fluoride and said fluorine gas;
transferring the gas mixture to a cold trap;
converting said hydrogen fluoride in said gas mixture into a liquid hydrogen fluoride; and
removing said liquid hydrogen fluoride from the cold trap, said fluorine cleaning gas remaining in a gaseous form;
activating said fluorine cleaning gas to form fluorine radicals; and
cleaning the process chamber with said fluorine radicals.
26. (Previously presented) The method of claim 25, wherein said fluorine cleaning gas is pumped into an on-site storage unit prior to said activating said fluorine cleaning gas.
27. (Previously presented) The method of claim 25, wherein said fluorine cleaning gas is activated to form fluorine radicals inside the process chamber.

28. (Previously presented) The method of claim 25, wherein said fluorine cleaning gas is activated to form fluorine radicals outside the process chamber, said fluorine radicals subsequently delivered to the process chamber.

29. (Previously presented) The method of claim 25, wherein said converting said hydrogen fluoride is via electrolysis.